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09/873,796	06/04/2001	Makis Kasapidis	491.046US1	3761

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EXAMINER

GARY, ERIKA A

ART UNIT PAPER NUMBER

2685

DATE MAILED: 10/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

76m

Office Action Summary

Application No.

09/873,796

Applicant(s)

KASAPIDIS, MAKIS

Examiner

Erika A. Gary

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Europe on October 6, 1999. It is noted, however, that applicant has not filed a certified copy of the 99307888.0 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1, 2, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by applicant's submission of prior art, Dunn et al., US Patent Number 5,600,706 (hereinafter Dunn).

Regarding claim 1, Dunn discloses a method of positioning a mobile station within a cellular telecommunications network which includes a plurality of base stations and a plurality of positioning elements and in which mobile stations and base stations communicate with one another over an air interface [fig. 2], said method including: at least one positioning element (range transceiver) transmitting a predetermined

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positioning signal at a predetermined time [col. 8: lines 8-16]; said mobile station determining a window of time within which to attempt to detect said positioning signal [col. 10: lines 31-36]; said mobile station detecting said positioning signal [col. 8: lines 33-34]; and determining a time-of-arrival value dependent on the time of arrival at said mobile station of said positioning signal [col. 8: lines 33-38].

Regarding claim 2, Dunn discloses said air interface operates in accordance with a code division multiple access protocol [col. 5: lines 45-49].

Regarding claim 17, Dunn discloses the use of a mobile station adapted to be positioned within a cellular telecommunications network [col. 6: lines 40-44].

4. Claims 1, 3, 5, and 9-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Munday et al., US Patent Number 6,201,803 (hereinafter Munday).

Regarding claim 1, Munday discloses a method of positioning a mobile station within a cellular telecommunications network which includes a plurality of base stations and a plurality of positioning elements (non-serving base stations) and in which mobile stations and base stations communicate with one another over an air interface [fig. 2; col. 2: lines 23-37], said method including: at least one positioning element transmitting a predetermined positioning signal at a predetermined time [col. 7: lines 1-4]; said mobile station determining a window of time within which to attempt to detect said positioning signal [col. 4: lines 11-19]; said mobile station detecting said positioning signal; and determining a time-of-arrival value dependent on the time of arrival at said mobile station of said positioning signal [col. 7: lines 38-46].

Regarding claim 3, Munday discloses said positioning signal is transmitted at a predetermined time relative to the timing of transmission from a base station (serving base station) with which the mobile station is in communication, and said time-of-arrival value is also relative to the timing of transmissions from said base station [col. 6: line 60- col. 7: line 2; col. 7: lines 38-46].

Regarding claim 5, Munday discloses a positioning element (non-serving base station) for use in positioning a mobile station communicating with a base station forming part of cellular telecommunications network [fig. 2], said positioning element comprising: positioning-element-to-mobile station transmitting means for transmitting positioning signal capable of being received by said mobile station [col. 2: lines 23-37]; and timing means for enabling the positioning element to transmit said positioning signals at predictable times with respect to the transmissions of said base station with which the mobile unit to be positioned is communicating [col. 6: line 60- col. 7: line 2; col. 7: lines 38-46].

Regarding claim 9, Munday discloses a cellular telecommunications network comprising a plurality of base stations and a plurality of positioning elements (non-serving base stations), each positioning element being adapted to transmit signals capable of detection by one or more mobile stations and capable of receiving signals transmitted by one or more base stations [fig. 2; (base stations are transceivers that have transmission and reception capability)].

Regarding claim 10, Munday discloses a cellular telecommunications network comprising a plurality of base stations and a plurality of positioning elements (non-

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serving base stations), each positioning element being adapted to generate signals capable of reception by one or more mobile stations at a predetermined time relative to the transmissions from at least one of said base stations [col. 2: lines 23-37; col. 4: lines 11-19].

Regarding claim 11, Munday discloses a mobile station in combination with the cellular telecommunications network [col. 2: lines 23-35].

Regarding claim 12, Munday discloses the mobile station includes: base station-to-mobile station receiving means for receiving signals from a base station (serving base station) [col. 6: lines 6-7]; and positioning-element-signal detecting means for detecting a positioning signal transmitted by a positioning element (non-serving base station) [col. 6: line 7; col. 7: lines 38-45].

Regarding claim 13, Munday discloses the positioning-element-signal detecting means includes window-of-reception determination means for determining a window-of-reception within which a positioning signal is expected to be received [col. 4: lines 15-18; col. 6: line 60 – col. 7: line 2].

Regarding claim 14, Munday discloses said window-of-reception is predetermined relative to the time of reception at the mobile station of the signals from the serving base station [col. 6: line 60 – col. 7: line 2].

Regarding claim 15, Munday discloses a mobile station for communicating with a cellular telecommunications network comprising a plurality of base stations and a plurality of positioning elements (non-serving base stations) [fig. 2], said mobile station including discriminating means for discriminating between signals transmitted by said

base stations (serving base stations) and signals transmitted by said positioning elements [col. 3: lines 12-16; col. 5: lines 29-35].

Regarding claim 16, Munday discloses means for discriminating between signals from a base station and signals from a positioning element (non-serving base station) by determining the pattern of repetition of signals and comparing the determined pattern with one or more known patterns of repetition of signals from either base stations or positioning elements [col. 7: lines 1-9].

5. Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by Vendetti et al., US Patent Number 5,295,180 (hereinafter Vendetti).

Regarding claim 5, Vendetti discloses a positioning element (marker transmitter) for use in positioning a mobile station communicating with a base station forming part of cellular telecommunications network [fig. 2; col. 4: lines 17-29], said positioning element comprising: positioning-element-to-mobile station transmitting means for transmitting positioning signal capable of being received by said mobile station [col. 5: lines 21-23]; and timing means for enabling the positioning element to transmit said positioning signals at predictable times with respect to the transmissions of said base station with which the mobile unit to be positioned is communicating [col. 3: lines 9-13].

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunn.

Claim 4 is dependent upon claim 1. As discussed above, Dunn discloses the limitations of claim 1. Regarding claim 4, Dunn also discloses said positioning element transmits only intermittently [col. 6: lines 9-12]. Further regarding claim 4, it is well known in the art that intermittent transmitting devices typically operate such that it is in a state of not transmitting any signals for larger average periods of time than it is in a state of transmitting signals. At the time of the invention, it would have been obvious to one of ordinary skill in the art to include this feature. The motivation for this modification would have been to provide a means to transmit the positioning signals while conserving energy by not transmitting unnecessarily.

8. Claims 6 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Vendetti in view of Munday.

Claim 6 depends upon claim 5. Both Vendetti and Munday individually disclose the limitations of claim 5.

Regarding claim 6, Munday discloses means for receiving signals from a base station using the air interface for receiving instructions for on-demand transmission of positioning signals [col. 12: lines 54-59] as it is known that emergency situations call for on-demand transmissions of position signals to locate the distressed user.

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Further regarding claim 6, Vendetti discloses the positioning element (marker transmitter) receiving reconfiguration orders from the network (zone computer) [col. 9: lines 32-47]. In the disclosed embodiment, Vendetti shows the reconfiguration orders are sent to the positioning element directly from the network (zone computer).

However, Vendetti also suggests that the orders can be sent from the network via the base station as implied in figure 2 where the zone computer (64) is associated with the mobile telephone switching center (56) which is in turn in communication with the base stations (54).

Vendetti and Munday are combinable because they are from the same field of endeavor, that is, position determination of a mobile station using positioning elements. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Vendetti to include Munday. The motivation for this modification would have been to provide a means for emergency location of the mobile device by including on-demand location.

Regarding claim 7, it is well known in the art for a transceiver device to transmit an acknowledgement of changes or instructions as shown by Vendetti [col. 1: line 66 – col. 2: line 1]. The inclusion of this feature would have been obvious to one of ordinary skill in the art at the time of the invention. The motivation for this would have been to include acknowledgement signals to improve system efficiency.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vendetti.

Claim 8 depends on claim 5. As discussed above, Vendetti discloses the limitations of claim 1. Regarding claim 8, Vendetti discloses the positioning element (marker transmitter) is powered by one or more batteries [fig. 6: ref. 118; col. 9: lines 21-24]. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify Vendetti such that the positioning element is powered solely by one or more batteries. Vendetti teaches using a battery as an alternative power source, however, it is well known in the art for transceivers to be powered solely by one or more batteries such that an AC source is not necessary. The motivation for this modification would have been to provide a power source that is self powered and not dependent on commercial resources.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schuchman et al., US Patent Number 5,701,328, disclose a chirped spread spectrum positioning system.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erika A. Gary whose telephone number is 703-308-0123. The examiner can normally be reached on Monday-Thursday: 7:30-5:00 and alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-305-4385. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

EAG
October 23, 2002


ERIKA GARY
PATENT EXAMINER